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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,888	09/30/2003	Barnes Cooper	42.P15714	8116

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EXAMINER	
YACOB, SISAY	

ART UNIT	PAPER NUMBER
2635	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/676,888	COOPER, BARNES	
	Examiner	Art Unit	
	Sisay Yacob	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1 The application of Cooper "Method and apparatus for trusted keyboard scanning" filed on September 30, 2003 has been examined.

Claims 1- 27 are pending

Claim Rejections - 35 USC § 102

2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3 Claims 1-3, 5-10, 12-17, 19-24 and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent of Angelo et al., (5,748,888).

4 As to claim 1, Angelo et al., discloses a method comprising a keyboard scan engine integrated on a chipset initiating a key scan process (Col. 9, lines 23-27), the keyboard scan engine detecting a key depression (Col. 9, lines 33-39), when in a trusted mode, transmitting a key code, corresponding to the key depression, through a trusted internal bus interface (Col. 9, 41-48, Col. 10, lines 1-6).

5 As to claim 2, the method of claim 1, further, Angelo et al., discloses wherein the trusted internal bus interface is a trusted Universal Serial Bus (USB) interface (Col. 10, lines 16-21).

6 As to claim 3, the method of claim 1, further, Angelo et al., discloses when in a non-trusted mode, sending a key code, corresponding to the key depression, through an interface to be processed by an onboard keyboard controller (Col. 5, lines 9-12).

7 As to claim 5, the method of claim 1, further, Angelo et al., disclose wherein the keyboard scan engine is integrated on I/O hub controller of the chipset (Col. 9, lines 23-26; Item s of figure 4).

8 As to claim 6, the method of claim 5, further, Angelo et al., disclose wherein the I/O hub controller includes a port expander interfacing with a keyboard (Item 158 of figure 4).

9 As to claim 7, the method of claim 5, wherein the keyboard scan engine implements a key scan algorithm (Col. 9, lines 33-47).

10 As to claim 8, Angelo et al., discloses a system comprising a central processing unit, a memory unit (Col. 3, lines 47-48; Item 100 of figure 1), and a keyboard scan

engine integrated on a chipset, the keyboard scan engine to initiate a key scan process (Col. 9, lines 25-27; Item 502, figure 4), detect a key depression, and, when in a trusted mode, transmit a key code, corresponding to the key depression, through a trusted internal bus interface (Col. 9, 41-48, Col. 10, lines 1-6).

10 As to claim 9, the system of claim 8, wherein the trusted internal bus interface is a trusted Universal Serial Bus (USB) interface (Col. 10, lines 16-21).

11 As to claim 10, the system of claim 8, further including: when in a non-trusted mode, the key code is to be transmitted through an interface to be processed by an onboard keyboard controller (Col. 5, lines 9-12).

12 As to claim 12, the system of claim 8, wherein the keyboard scan engine is integrated on I/O hub controller of the chipset (Col. 9, lines 23-26; Item s of figure 4).

13 As to claim 13, the system of claim 12, wherein the I/O hub controller includes a port expander interfacing with a keyboard (Item 158 of figure 4).

14 As to claim 14, the system of claim 12, wherein the keyboard scan engine implements a key scan algorithm (Col. 9, lines 33-47).

15 As to claim 15, Angelo et al., discloses a machine-readable medium having stored thereon a set of instructions, which when executed by a processor (Col. 7, lines 48-51; Col. 10, lines 31-41), performs a method comprising a keyboard scan engine integrated on a chipset initiating a key scan process (Col. 9, lines 23-27), the keyboard scan engine detecting a key depression (Col. 9, lines 33-39), when in a trusted mode, transmitting a key code, corresponding to the key depression, through a trusted internal bus interface (Col. 9, 41-48, Col. 10, lines 1-6).

16 As to claim 16, the machine-readable medium of claim 15, wherein the trusted internal bus interface is a trusted Universal Serial Bus (USB) interface.

17 As to claim 17, the machine-readable medium of claim 15, further including: when in a non-trusted mode, sending a key code, corresponding to the key depression, through an interface to be processed by an onboard key board controller.

18 As to claim 19, the machine-readable medium of claim 15, wherein a keyboard scan engine is integrated on I/O hub controller of the chipset.

19 As to claim 20, the machine-readable medium of claim 19, wherein the I/O hub controller includes a port expander interfacing with a keyboard.

20 As to claim 21, the machine-readable medium of claim 19, wherein the keyboard scan engine implements a key scan algorithm.

21 As to claim 22, Angelo et al., discloses a system comprising a central processing unit, a memory unit (Col. 3, lines 47-48; Item 100 of figure 1), a graphics controller (Col. 4, lines 43-44; Item 165 of figure 1), and a keyboard scan engine integrated on a chipset, the keyboard scan engine to initiate a key scan process (Col. 9, lines 25-27; Item 502, figure 4), detect a key depression, and, when in a trusted mode, transmit a key code, corresponding to the key depression, through a trusted internal bus interface (Col. 9, 41-48, Col. 10, lines 1-6).

22 As to claim 23, the system of claim 22, wherein the trusted internal bus interface is a trusted Universal Serial Bus (USB) interface.

23 As to claim 24, the system of claim 22, further including: when in a non-trusted mode, the key code is to be transmitted through an interface to be processed by an onboard keyboard controller.

24 As to claim 26, the system of claim 22, wherein a keyboard scan engine is integrated on I/O hub controller of the chipset.

25 As to claim 27, the system of claim 26, wherein the I/O hub controller includes a port expander interfacing with a keyboard.

Rejections - 35 USC § 103

26 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

27 Claims 4, 11, 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent of Angelo et al., (5,748,888).

28 As to claims 4, 11, 18 and 25, the machine-readable system and method of claims 3, 10, 17 and 24, however, Angelo et al., does not expressly discloses when in

the not-trusted mode, the key code is transmitted to the onboard keyboard controller via a PS/2 interface.

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify the machine-readable system and method for keyboard scan of Angelo et al., in order to have when in the not-trusted mode, the key code is transmitted to the onboard keyboard controller via a PS/2 interface, because one of ordinary skill in the art recognize the key code may be transmitted to the onboard keyboard controller via any type of interface.

Conclusion

29 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following cited arts are further to show the sate of art related to Method and apparatus for trusted keyboard scanning.

In the US patent of (6,725,318) Sherman et al., discloses keyboard selectively operable to convey data to and from a host or personal computer (PC) through a universal serial bus (USB) port and/or a personal system/2 (PS/2) port.

In the US publication of (20020166055) Challener et al., discloses a desktop computer system have been furnished with a security chip, which permitted secure digital signature usage.

30 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-

8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sisay Yacob

01/06/06

S.Y.

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